

FIRST CONFIRMED OBSERVATION OF *HETERONYMPHA CORDACE WILSONI* BURNS (LEPIDOPTERA: NYMPHALIDAE: SATYRINAE) IN SOUTH AUSTRALIA

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Abstract

A population of *Heteronympha cordace wilsoni* Burns was discovered in South Australia east of Port MacDonnell in December 2004. Although it is unknown if the species is breeding at or near this site, due to the apparent lack of its host plant, this appears likely because of the extremely fresh condition of some of the specimens observed. *H. cordace wilsoni* was presumed extinct from various localities where it was once common and this is the first documented observation for over 27 years.

Introduction

The bright-eyed brown, *Heteronympha cordace* (Geyer), is a geographically variable satyrine with two subspecies found in southeastern Australia and three others restricted to Tasmania (Braby 2000). Subspecies *H. c. wilsoni* Burns has been recorded only from southwestern Victoria, from the Wannon River in the Grampians southwest to Dartmoor and Nelson (Braby 2000, Dunn *et al.* 1994, Sands and New 2002). It was suspected (but not confirmed) to occur in South Australia by Grund (1998).

Dunn *et al.* (1994) rated the conservation status of *H. c. wilsoni* as 'Vulnerable', Grund (1998) as 'Endangered' in South Australia and Sands and New (2002) as 'Critically Endangered' throughout its range. Previous reports and studies (Fisher 1978, Grund and Hunt 2000) failed to record and/or find this species in South Australia but Grund and Hunt (2000) suggested it could be present as suitable habitat occurs.

H. c. wilsoni occurs in swampy areas where its host plant *Carex appressa* is present (Grund and Hunt 2000, Sands and New 2002, Dunn *et al.* 1994). Adults are not known to fly far from sites where the larval food plant occurs and have a slow, meandering flight close to the ground among the larval food plants, unlike other species of *Heteronympha* Wallengren (Braby 2000).

H. c. wilsoni is smaller and paler than typical *H. c. cordace*, the orange markings on the upperside are paler and more extensive and the eyespots much smaller. The underside ground colour is paler, with the markings on the hind wing obscure and ill-defined. The eyespots on the underside are smaller or absent (Dunn *et al.* 1994, Braby 2000, Sands and New 2002).

First South Australian observations

Observers. Vicki Natt, Elaine Lawson, Jean Haywood and Bryan Haywood.

Locality. Between the South Australia/Victoria border and Port MacDonnell in the lower southeast of South Australia.

Habitat. *Leptospermum lanigerum* shrubland with *Phragmites australis*, *Myoporum insulare*, *Acacia longifolia* var *sophorae* and various species of Cyperaceae.

Observations. In mid to late afternoon on 30 December 2004, in fine, mild weather, V. Natt, E. Lawson and J. Haywood noticed three to four small, orange butterflies flitting around and feeding on creeping brookweed (*Samolus repens*) flowers that bordered the rushes. After being disturbed they did not fly far and usually alighted on or near another *Samolus* flower. They were similar in colouring to the common brown, *Heteronympha merope merope* (Fabricius), but smaller, with a much more distinctive black and orange pattern that was striking on the upperside of both fore and hind wings and on the underside of the forewing. The underside of the forewing had less distinct, more subdued pattern/colouring.

The individuals observed (Figs 1-2) had eyespots with blue centres on both fore and hind wings. On limited occasions we observed them open their wings, when we could see a very tiny eyespot at the top of the upperside of the hind wing. Several digital photographs were taken and these were enough to work from for an identification using Braby (2000).

Subsequent visits to the site in January 2005 by B. Haywood found that the butterfly was still flying and both sexes were present. On several occasions observations were made of a smaller and paler (presumed male) individual pursuing a larger (presumed female) individual throughout the site. The last visit to the site was on 24 January, with one male and one female observed.

Discussion

The individuals of *H. c. wilsoni* observed at the site were identical to those described in Braby (2000) and Dunn *et al.* (1994); however, there are a few additional features to report. A photograph of one specimen had one bluish-white spot above the subternal eyespot on the underside of the hind wing. Also, minute white spots are evident between the two upperside hind wing eyespots, and one below the apical eyespot on the forewing. Specimens photographed in the field showed much variation in these markings and they were not always present. Further taxonomic investigations are warranted on this population.

Drainage, wildfire and cattle grazing have been identified as threatening processes against the long-term survival of this species. In South Australia, these *Carex* swamp habitats are now severely degraded and fragmented (Grund and Hunt 2000). Alterations to hydrology in potential habitat areas should be closely scrutinised before permission to alter these areas is granted. Sands and New (2002) highlighted the poor dispersal ability of this butterfly, rendering isolated populations susceptible to extinction from habitat loss or degradation. This fact highlights the importance of connectivity between colonies, as natural re-colonisation is unlikely in a fragmented landscape.



Figs 1-2. *Heteronympha cordace wilsoni* in South Australia. (1) perched on reed; (2) basking.

Braby (2000), Grund and Hunt (2000) and Grund (1998) all noted that this species flies close to the ground amongst the larval food plant. *Carex appressa* was not observed where the butterflies were flying, so this is inconsistent with our observations. Further surveys should be undertaken in South Australia and Victoria to ascertain whether past populations are still extant, whether new populations can be found, and if they are using a different host plant.

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